ured off on the hydrostatic dilator and it is passed in a similar manner over the thread. When the dilator is in the correct position, the water is turned on and the pressure in the bag is increased up to the desired point by compressing the outlet tube. As soon as the gauge registers the desired pressure, usually from 15 to 20, the water is released and the bag removed. The thread is cut off close to the patient's mouth and the remainder swallowed.

RESULTS OF TREATMENT

In nearly all my cases a single dilatation has been successful. In two patients two dilatations were necessary. In one instance the patient developed a pulmonary lesion, which may have been the result of a slight splitting of the esophagus or an aspiration pneumonia. The patient recovered after a brief illness. In two patients the hydrostatic dilator was not used, but a size 60 French olive was used in its stead. These patients also obtained complete relief.

Patients usually complain of a little soreness under the lower end of the sternum after treatment, but this passes off after a day or two. The spasm is relieved immediately, and the patients are able to eat a large meal without difficulty a few hours after the procedure.

CONCLUSION

The results following hydrostatic dilatation of cardiospasm are so gratifying to both patient and doctor that it seems worth while to again call attention to this fact.

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DISCUSSION

WILLIAM J. KERR, M.D. (University of California Hospital, San Francisco).—It has given me a great deal of pleasure to read Doctor Nagel's instructive paper on "Cardiospasm." There is not much doubt that most of the patients described by Doctor Nagel, in reporting his experience in fifteen cases, have reached the stage where forceful dilatation of the cardiac sphincter is perhaps necessary in their treatment. The condition is somewhat analogous to the pylorospasm occurring in infants, where the tissue becomes extremely rigid and would remain permanently so unless some mechanical measures were employed to relieve it. In my opinion, these two conditions are examples of structural change which results from long-standing functional disturbance.

If one can recognize patients who have a tendency to cardiospasm, and can approach them from the standpoint of functional disturbance, going into their psychological problems and treating them first in an attempt to remove the cause of their trouble or to make the situation in which they find themselves comprehensible to them as a cause for their symptoms, I am sure that a good deal can be done to prevent the later stages which Doctor Nagel rightfully suggests should be treated by forceful dilatation. It may be necessary to make use of sedatives and antispasmodic drugs, and to treat the autonomic nervous system either on the parasympathetic or, perhaps, on the sympathetic side; but this must be handled in an individual manner on the patients as they present themselves. If one follows the directions which have been given by the author, there is very little probability of injury to the tissues around the lower end of the esophagus, and one is not likely to have mediastinitis or other local infections arise following trauma to the tissues and perhaps extension of infection from the lumen of the esophagus or stomach.

WILLIAM DOCK, M.D. (Stanford University Hospital, San Francisco).—The treatment of cardiospasm by forceful dilatation, with a dilator of large caliber, is one of the most satisfactory therapeutic procedures in all medicine, as those of us who have followed Doctor Nagel's cases, or cases similarly treated elsewhere, are well aware. While the treatment must be used with strict care as to its details, and preferably only after much experience in assisting at the operation, the actual discomfort and risk to the patient are not great enough to justify other forms of therapy except under unusual circumstances. Mild cases unable to obtain such therapy may be controlled by allowing them to pass a mercury-weighted Ewald tube before and after meals, as described by Arthur Hurst in 1924, and very long-standing cases with tortuous gullets may require gastrostomy, retrograde dilatation and other procedures; but the majority of instances met with in practice are best managed by the technique described here. It should be noted that the disturbance affects the lower esophagus, and is due to its failure to relax as the peristaltic wave comes down. A tube passes through easily, and is not gripped as the spastic anal sphincter grips the examining finger. But only forceful overdilatation can be relied on to give more than transient relief.

THE LURE OF MEDICAL HISTORY†

MEDICAL CONDITIONS, PRACTICES, AND FOUNDATIONS IN THE CONTINENTAL COLONIES*

By HAROLD HANZLIK†
San Mateo, Calif.

PART II‡

INDIAN CONTRIBUTIONS

HOWEVER, Governor Winthrop's son, J. Winthrop, Jr., copied some worth while things from his red-skinned friends. A short discussion of these will indicate the contributions of the Indians. Doctor Winthrop praised their use of tobacco, saying, "The juice of the green leaf healeth green wounds, although poysened" (Packard). The juice referred to by Winthrop contains nicotin, which acts as an antiseptic, but, if used too liberally, as a strong poison. Winthrop adopted this remedy for his formulary. The Indians, like the colonists, knew about cauterizing wounds to prevent infection. The Indians used cauterization in a very novel way to keep prisoners from running away. Winthrop states that the Indians cut away half of a prisoner's foot, then took the skin and wrapped it over the wound and cauterized it, thus preventing the prisoner from running because he had only half a foot. The Indians also knew about cascara, a drug official in modern pharmacopeias, and used it both for painting themselves and as an emetic for the sick.

However, the Indians were worse off than the colonists when it came to epidemics. An old English writer states, "They (Indians) were also

†A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of CALIFORNIA AND WESTERN MEDICINE. The column is one of the regular features of the Miscellany department, and its page number will be found on the front cover.

* Second award in an essay contest of The Colonial Dames, December 1, 1935.

† Major in basic medical sciences, Stanford University.

‡ Part I of this paper was printed in the August issue (on page 169).

considerable heretofore, about 3,000 men. . . . But they also were almost totally destroyed by the great sickness (plague) before mentioned, so that at this day they are not above 250 men besides women and children" (Blanton). The reason the Indians suffered was that they lived in much filth. They sometimes housed as many as nineteen persons in one tent. It is no small wonder, therefore, that they had great epidemics and sickness. Malaria was common among them because they drank water from stagnant pools in which the mosquito laid its eggs. On the other hand, the colonists did not suffer as much, because they did not walk among the natives during the epidemics. In all probability the epidemics were not contagious. It is more likely the colonists were cleaner, and kept themselves covered more, thus reducing the chances for mosquito bites and malaria. There is no doubt that the colonists received some valuable remedies, as well as some worthless ones, from the Indians. Sweating in tents was extensively employed by the Indians, and this practice was adopted by the colonists and their doctors; but its proper use was apparently not correctly understood. And disease, of course, also was not understood, and only scattered references to this phase are made by colonial writers.

MEASLES

Governor Winthrop's descriptions of diseases are brief, and therefore little is actually known about the prevailing sickness of the Colonial times in New England. However, a most prevalent disease at that time was measles, which was not limited to the Massachusetts colony, but was found also in the Carolinas, Virginia, and in the middle states. For, in Philadelphia, there was quarantine against measles as early as 1736, and perhaps earlier. New York also passed laws, in or about 1650, prohibiting the docking of ships that carried measles. Once, however, ships got into port without knowledge of the local authorities and as a result there soon appeared an epidemic. The careless attitude of the officials and people often made the work of these early physicians extremely difficult. They were forced to combat not only disease, but also the puritanic and straight-laced virtues of the God-fearing populace.

ON THE TEACHING OF ANATOMY

About 1763 there appeared a certain young man, named Dr. William Shippen, who tried to teach a few loyal followers something about human anatomy. It appears, however, that his teaching of anatomy was periled considerably by some Philadelphia citizens, who demanded that he stop disgracing God and nature by making autopsies on human beings. The good doctor took no heed of these protests, with the result that he was very nearly lynched. If he had not been protected by a friend he might not have continued his work and never have achieved the fame which later was his. The wrath of the people at times knew no bounds. When Cotton Mather and Dr. Zabdiel Boylston had completed their inoculation experiments, they were threatened and openly attacked. Sometimes the doctors had to make all their calls at night, and they always were on their guard against attacks. Doctor Shippen was forced to dig up graves in order to obtain subjects for his work on anatomy. Boylston secretly practiced inoculation experiments on his negro servants and immediate family.

INOCULATION EXPERIMENTS OF ZABDIEL BOYLSTON

Here it should be noted that Boylston was considerably ahead of the English physician, Edward Jenner, who is generally credited with having introduced vaccination for smallpox. Jenner makes no reference to Boylston or Mather in his paper entitled "Vaccination Against Smallpox," published in 1798, although he may have done so in his first paper, written in 1796, which was never published. Nevertheless, Boylston was later recognized for his work on vaccination in Jenner's country, for he was introduced to the Court and made a Fellow of the Royal Society. It is of further interest that Boylston was a cousin of Cotton Mather's, and it was Mather who suggested to Boylston to try vaccination for smallpox. Mather, in turn, got the idea while browsing through English literature, where he found that vaccination was practiced extensively in Turkey during the Crusades. Thus, it seems clear that the colonists and their physicians were not lacking in powers of actual observation and appreciation of significant phenomena for good health and protection of their people. In fact, they were more alert and progressive than were their colleagues abroad, who were more advantageously situated, but their rewards were pitifully small.

FINANCIAL REMUNERATIONS

It may be of interest to consider briefly the remuneration that these early doctors received for their professional services. The case of Dr. James Oliver, practitioner of "physic," is interesting in this connection. It seems that Doctor Oliver charged only modest sums for his medicines and visits. It is pathetic to find that the good doctor often had no money for making visits, for patients paid little or nothing. For instance, one J. Hancock paid Doctor Oliver, but the doctor received "no pounds, no shillings, and sixpence." Although Doctor Oliver often attended as many as twenty or thirty patients daily, and more during epidemics, he received the total sum of only seven pounds and two shillings, or something over $35, for all his work. Truly, the life of the colonial doctor was far from the proverbial bed of roses, and his practice was anything but lucrative. Perhaps some of the colonial doctors never received their just dues because of the unpalatable medicinal concoctions which they prescribed for their patients. In fact, these mixtures were often so revolting to take that the patients were forced to expectorate them and, therefore, no good came of them. The treatment seemed worse than the disease, and the patient recognized that he recovered without the doctor's medicine and thus denied the value

of medical services. To make matters worse for the colonial doctors, there was the competition from midwives, who, in a way, were better appreciated because of their personal services.

INFLUENCE OF MIDWIVES

It may be reasonably doubted if midwives should be classed professionally with medical practitioners. However, by the middle of the seventeenth century they were regarded as being equally important and, therefore, they may be considered here. The other two classes of practitioners were physicians and surgeons. In any event, the midwives considerably affected the lives of the colonists and the work of the early physicians. During childbirth, no female patient was allowed to be attended by men. As a result, midwives were expected to take care of the mother as well as the child. Some of these midwives, among whom one of the most outstanding was Mrs. Ann Hutchinson, who founded a colony in Rhode Island, were highly proficient in this trade, and made it the sole business of their lives. The great class of midwives was built up and reigned supreme in obstetrics during the seventeenth and eighteenth centuries. Their extinction resulted only in the latter part of the eighteenth and the middle of the nineteenth centuries, when it was found that they often carried the germs of the dreaded puerperal fever. Undoubtedly their creed was, "let nature do the work." The result of this was that the proportion of children born dead in the Colonies was only a little less than the proportion of children that survived. Oftentimes the midwife was careless, the child was miscarried, and the mother died of puerperal fever. At times, of course, there were factors which could not be controlled or prevented. In one case in particular, when Mrs. Ann Hutchinson was acting as a midwife for a woman, the child born was a monstrosity, and Mrs. Hutchinson was required to appear before a Massachusetts court. She was charged with bewitching the child because she had muttered something before its birth. If she had not escaped to Connecticut, she would have been hanged. Similarly, in the early histories of Virginia, New York and New Jersey, midwives were often persecuted for something which they could not help or control. Again, the crude practices of these midwives make one wonder that the colonists survived as well as they did.

The important thing to note here is that the midwives, though often uneducated and generally untrained in the medical work they were doing, nevertheless played an important part in the lives of the colonists. They also constituted a fair percentage of the population, and were always in demand. So far as the colonists were concerned, the midwives were on the same plane as physicians and surgeons, despite their lack of learning. However, they contributed nothing real or lasting to medicine proper, except possibly their dangerous practices, which gradually caused the people to turn to the physicians. According to Mumford, one of the first male physicians to attend a woman during childbirth was a man from the Colonies. His name is not given by Mumford, but he points out that the physicians of these small settlements were wise enough to teach the people the importance of a physician taking care of the mother as a patient. In this respect, they were at least even with, if not somewhat ahead of, the doctors of the mother country. England had not yet entertained the thought of banishing midwives, but the colonists had dropped them as a class. Not only did the colonists lead in this regard, but also in the practice of medicine proper. They were discarding most of the ineffective remedies of the old formularies, and in their place were substituting more desirable and effective drugs.

COLONIAL FOUNDATIONS

A prominent American physician has said that the physicians of the continental colonies were among the leaders in medicine of the world during the seventeenth century, and it is not difficult to agree with him. There is much evidence of a real scientific interest among the colonial physicians, and, if it had been properly sustained, American medicine would have progressed faster and farther. As it happened, there was stagnation for more than seventy-five years after the colonists, and a domination by a spirit of commercialism until about forty years ago, when medicine in this country was again gripped by a scientific spirit which continues with increasing importance.

Looking back at those early times, it seems fair to conclude that by the time of the American Revolution, medicine in the continental colonies had a pretty fair foundation upon which could be laid the cornerstone of modern American medicine. We owe a great deal to these colonists and their physicians, who came here unprepared generally for diseases, many of which were new to them. Through their own ingenuity, and adaptations from various sources, they worked out methods for successfully combating and controlling the maladies. As already indicated, the colonists had to be more practical because they had few medical books or guides from England, and those that came were often out of date. The colonists, therefore, had to start by making first-hand observations on patients, and then, with the help of some Indian, old English concoctions, and of a few of their own, they gradually ruled out valueless cures and treatments. Many of these were, unquestionably, primitive. However, these and more may be legitimately excused, as well as praying over inveterate maladies attributed to demoniacal possession and other questionable methods, which today would cause amazement. These people may be excused, because they learned from first-hand experiences, by a sort of trial-and-error method. Of course, many times the patients got well because they had been helped by nature, rather than by the treatment. Be that as it may, the colonial physicians were conscientious, ever alert, practical men, who sought—and many times in vain—to save their friends, neighbors, and relatives from the clutches of death. They were humanitarians and more.

In reviewing the achievements of the seventeenth and early eighteenth centuries, there is to be found a long list of honored names, and a precious record written in private memoirs, in public charities, and in permanent contributions to medical science. Through their earnest endeavors, our predecessors, the colonial physicians, were among the leading, and in some things *the* leading, medical practitioners and investigators of these centuries. Because of the basic interests held by these old colonial practitioners, many of whom were also preachers, blacksmiths, and other tradesmen, American medicine has been built up to the highest degree of efficiency of all nations. It has become highly specialized to suit the needs of the many diseases now known, and of conditions which have developed with time. However, much of this is due to the firm and original foundations, especially the will for self-improvement, passed on to us by those old colonial practitioners.

The founding of the following important institutions and organizations in their time will bear witness to the colonists' great foresight and wisdom: The first hospital in Long Island (1663), College of William and Mary (1693), Yale College (1701), the Philadelphia Hospital (1721), the Medical Society of New York (1749), Columbia University (1756), University of Pennsylvania Medical School (1765), the first medical school in this country, Columbia Medical School (1768), Princeton College (1776), the first American pharmacopeia published by William Brown in Philadelphia (1778), Harvard College (1636) and Harvard Medical School (1782). In 1799 Congress passed the first quarantine act. Attempts at state regulation of medical practice were begun in New York in 1760, and in New Jersey in 1772; some kind of control also being exercised in Massachusetts and New Hampshire in 1781. In that early era of our country, that student of medicine and immortal surgeon, Dr. John Collins Warren, came into the world (1778), a man who will always be remembered for making, in 1846, the first completely painless surgical operation with ether anesthesia at the Massachusetts General Hospital.

Thus, everything considered, the continental colonists and their physicians were not only not lacking in appreciation of the great medical discoveries and developments in the Old World, but they actually began and made many of their own. They laid the foundations for great institutions and opportunities in this country, and these same institutions and influences have continued to expand and develop down to the present day. All this testifies to the remarkable wisdom and foresight of these colonists. Indeed they builded more and better than they realized. For today, American medicine leads all countries of the world in its high achievements, discoveries, and devotions to the public health and welfare. These colonial contributions in medicine† must be regarded as of the first order, for the seeds of some of them have given richly deserved harvests. They have affected institutions and teachings of medicine not only in this country, but throughout the world. Hence, it can be said truly that American colonial medicine made a real, substantial, and lasting contribution to all populations, in all countries, and for all time.

† References will appear in author's reprints.

Conversational Gems of Dr. J. P. Widney*

Founder of the Los Angeles County Medical Association: At Age of Ninety-Five Still Active in Literary and Church Work

It is the getting, not the having, that makes the man.

The sickle is the test of the plow.

It takes a strong man to acknowledge his own weakness.

Our system of merchandising involves a great loss of time.

Do not make the postscript longer than the letter.

There can be no flour unless there is grist in the mill.

The people of the East are dreamers, but dreamers are dangerous when they wake up.

It takes brains to handle a pick and a shovel efficiently.

When you begin to repair an old house, open your purse and shut your eyes.

Thinking is the price of safety in our modern civilization.

Only the Infinite can comprehend the infinite.

Face-lifting is simply another name for pocket-lifting.

Men do not jump to success. It is the plodder that gets there. He was possessed by a great idea. A great idea is a great asset.

When you have a physician who begins to talk of calories and vitamins, run for your life. Eat what you want and you'll get well.

A discontented old age shows a life not satisfied with the harvest.

Civility is an asset that pays heavy returns.

Dignity is a good thing, but it does not do for a starving man to be so dignified he cannot eat without a napkin.

The piano is a machine. The organ has a soul in it.

The cello is the peace-maker among discords.

Brains can outwork brawn.

It takes brains to keep a face young.

The violin may be either angelical or diabolical.

When the thief has all he wants, he wishes everybody to turn honest.

The world is topsy-turvy climatically, financially, racially, socially, religiously (1934).

The world is bigger than the men who are trying to run it.

Selfishness cannot be concealed. It will crop out.

Do not spoil the sunshine of today by thinking of the clouds that may come tomorrow.

No man is strong enough to stand without friends.

The only real tenure of land is strength to hold it.

There is no juggling of funds in the books of the Recording Angel.

Good subordinates often do not make good principals.

It is the incompetent man that never wants advice.

The competent bookman is the man who knows not only the stores of his own land, but the bookstores of the world.

The man who cannot see greatness in others has no greatness in himself.

I can take a fifty-foot lot in the city and live in the country.

Never use a long word if a short word will express the thought.

Whenever you find a man who thinks he is the only honest man, do not indorse his note.

Life is a mirror. You see yourself wherever you go.

The piano is an instrument of percussion, ordinarily used for pounding time.

Of many a book I read the table of contents only.

Work is salvation. Idleness is destruction.

(To be continued)

* Compiled by Rebecca Davis Macartney.

Previous excerpts from the Macartney compilation were printed in the July issue (page 61), and August issue (page 171).